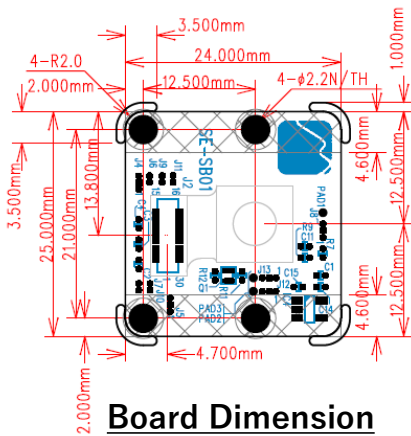
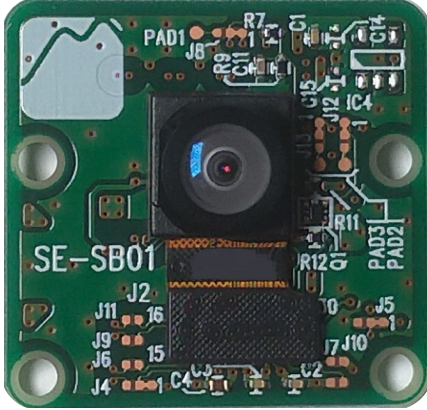




Soho Enterprise Ltd.

Fish Eye Camera Board w/ 8Mpix CIS for Single Board Computers
SE219FE-00/01-CB

■ Ultra Wide View Angle: FoV = 187° ± 3°

Suitable for wide angle image recognition usage in AIoT area.

■ Adopted the most mature image sensor for SBC.

Sony IMX219PQH5-C

■ Camera Driver with AE/AWB functions for “tinker board” is available.

Processed in Embedded HW ISP, Full Size 20fps/FHD 30fps

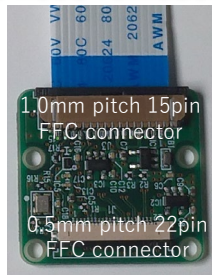
■ w/ IRCF(-00), w/o IRCF(-01) module are available

■ Extensivity:

FFC connector for MIPI CSI-2 4 lane connection for faster fps.

■ Ready for use

No need remodeling the module to get wide FoV



■ Assumed application cases

○ Look down monitoring with few blind spots

○ VR Stereo Vision

○ Wide vision for Robots, AI speaker, any others

○ Monitoring wildlife ecology, harm to agriculture

○ Home-use video monitoring & recording

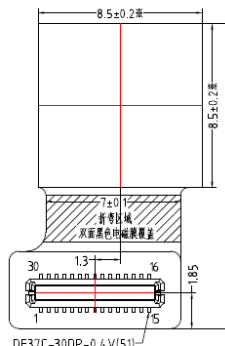
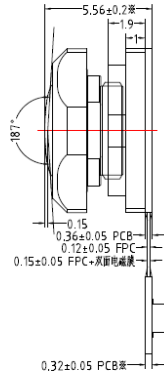
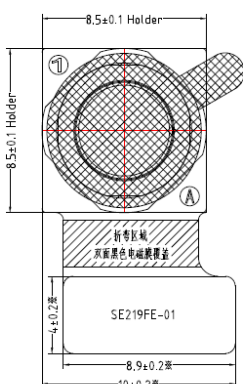
○ 360° monitoring on drones, robot cars, etc.

○ Sports camera for tennis, volleyball, badminton, etc.

Fish Eye Lens Module: SE219FE-00/01



主要参数	镜头名称	镜头类型 (Lens Size)	视场角 (View Angle)	焦距 (EFL)	光圈 (F-NO)	畸变 (TV Distortion)	最大成像圈 (Max Image Circle)	相对照度 (Relative Illumination)	景深 (Focusing Range)	调焦距离 (Focussing Distance)	IR截止滤光片 (IR Filter)	FPC供应端材料	MIPI接口控制	底座名称 (Holder)	透光芯片 (Chip Type)	像素 (Array Size)
		1/4 6P	187°±3°	0.74	2.10±5%	-37.90%	---	38.3%(1.0F)	30cm ∞	60cm	6.3×6.3×0.21 白玻璃	FPC使用无铅无汞焊锡	100Ω±10%Ω	KL085H	感光芯片 (Chip Type)	3296×2512



NO	PIN NAME	NO	PIN NAME
1	NC	16	DGND
2	NC	17	MIPI-D0N
3	D0VDD1.8V	18	MIPI-D0P
4	D0VDD1.2V	19	DGND
5	Sensor-PWDN	20	MIPI-D1N
6	DGND	21	MIPI-D1P
7	MIPI-CLK	22	DGND
8	DGND	23	MIPI-D0N
9	AGND	24	MIPI-D0P
10	AVDD2.8V	25	DGND
11	(TBD)	26	MIPI-CLKN
12	DGND	27	MIPI-CLKP
13	MIPI-D3P	28	DGND
14	MIPI-D3N	29	SCL1(1.8V)
15	DGND	30	SDA1(1.8V)

Same (x, y) form factor & compatible pin assignment w/ the module on Raspberry Camera V2.1

Key Specifications SE219FE-00/01-CB

Image Sensor	Product Code: IMX219PQH5-C	Manufacturer	Sony Back-side illuminated CMOS image sensor
		Pixel size	1.12um x 1.12um
		Active Image Area	3280 x 2464 8Mpix
		Optical Size	Type 1/4 Diagonal 4.60mm
		Operation Temperature	-20~60°C Function guarantee -20~60°C Performance guarantee
		Storage Temperature	-30~80°C
Module	Lens	Configuration	Type 1/4, 6P
		FoV	187° ± 3°
		F No.	2.10 ± 5%
		Focus range	30cm ~ Infinity, Adjusted at 60cm when shipped.
	Connector	30pin	Compatible w/ Raspi Camera v2.1 module
	Size	8.5mm*8.5mm*5.56mm	Lens Holder size. Same (x, y) size to Raspi module
	Weight	0.4g	
	Power Supply	Analog	2.8V ± 0.2V
		Digital	1.2V ± 0.12V
		IO	1.8V ± 0.18V
Board	Size	25mm* 24mm	Almost same size and compatible position for screw holes with RaspberryPi camera V2.1.
	Connector	1.0mm pitch 15pin	For Tinker board, RaspberryPi
		0.5mm pitch 22pin	RaspberryPi0, Raspi compute module, etc.
	Output	I/O Format	Support MIPI CSI-2 2lane and 4 lane
		Maximum speed	Full size: 30fps, FHD: 60fps, 720P: 180fps (MIPI 4 lane mode)
	Power Supply	3.3V ± 0.3V	Generate Analog 2.8V by on-board LDO
			Generate Digital 1.2V by on-board DD-converter.
			Generate Analog 1.8V by on-board LDO
			Generate AF 2.8V by on-board optional LDO

Why are the SE camera boards suitable for AIoT vision processing applications?

- Good image quality**
The SE camera series uses a high-quality Sony image sensor of better SNR.
- Ready to use on tinker board and other SBCs**
Camera drivers are ready. Easy to customize for PoC prototyping
- Variety of Options**
Wide variety of options for resolution, global shutter, wide FoV lens, focus driver, etc.
- Low Latency, RAW image**
Suitable for real-time autonomous control system
- Affordable for everyone**
Pricing that individuals can purchase from a single item in line with the corporate philosophy of helping to create open innovation.

■ Further Information:

<https://soho-enterprise.com/>

<https://www.visionproc.org/index.php>